



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,899	02/02/2000	Hiroyuki Suzuki	032817-002	5436

21839 7590 03/26/2004

BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER

CARTER, TIA A

ART UNIT	PAPER NUMBER
----------	--------------

2626

DATE MAILED: 03/26/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/495,899

Applicant(s)

HIROYUKI SUZUKI

Examiner

Tia A Carter

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6-8.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1- 3, 4, 6-9, 11, 13, 15-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1 the specification does not describe the CCD sensor as three independent sensors but as one contraction type color CCD sensor transmitting three signals representing RGB on page 11 lines 1-6. Claim 1 lacks support and is disclosed as:

A first sensor having a plurality of reading elements arranged in the primary scanning direction;

A second sensor having a plurality of reading elements arranged in the primary scanning direction, the second sensor being arranged in the primary scanning direction, the second sensor being disposed a predetermined lines apart from the first sensor in the secondary scanning direction.

Claim 2 lacked support from the specification wherein there are no changing means identified and the control portion has not been described in such a way to support the limitations in claim 2

Changing means for changing a relative speed of the first and the second sensors moving relatively to an original image in accordance with a scaling ratio; and

A control portion for enabling the fractional correction portion when a fraction is generated adding to integral lines of output time difference between the data from the first sensor and the data from the second sensor after changing the relative speed of the first and the second sensors to an original image.

Regarding claim 3 the specification failed to disclose a third sensor having a plurality of reading elements arranged in the primary scanning direction, the third sensor being disposed a predetermined lines apart from the first sensor in the secondary scanning direction.

Regarding claim 4 the specification did not disclose the read RGB as signal from three separate sensors by from a 3-line sensor capable of obtaining RGB signals on page 11.

Regarding claim 6 the specification does not disclose wherein the fractional correction portion is enabled if the width of the black fine line is greater than a predetermined value, while the fractional correction portion is disabled if the width of the black fine line is equal to or less than a predetermined value on the basis of the output signal of the black fine line detection portion.

Regarding claim 7, the specification did not disclose performing the correction for each of plural areas divided in the primary scanning direction.

Regarding claim 8, the specification did not disclose wherein a predetermined test image is read for each of machines that are equipped with the image processing apparatus so that information for correction for each area is obtained from the image data.

Regarding claim 9, the specification did not disclose wherein a ladder chart in which black lines are arranged by a predetermined pitch in the primary scanning direction as the test image, a position shift among barycenters of the obtained red, green, and blue image data is calculated, and boundaries of the area and correction coefficients for the areas are obtained as the information for correction for each area in accordance with a distribution of position shift among the barycenters of the red, green and blue image data in the primary scanning direction.

Art Unit: 2626

Regarding claim 11 the specification failed to disclose an image sensor having a structure in which a plurality of element arrays are arranged longitudinal in the primary scanning direction in parallel by a predetermined pitch in the secondary scanning direction, the apparatus comprising:

A plurality of interline correction means having reference colors for correction different from each other, for correcting a misregistration among the element arrays of the image sensor in the secondary scanning direction; and

Regarding claim 13 the specification failed to disclose a density correction portion for performing correction increasing a density of image data of the corresponding wavelength component in the present pixel when the present pixel is on a fine line on the basis of the signal from the fine line decision portion; and

A chroma decision portion for deciding whether the present pixel is a chromatic color or an achromatic color using the output value of the density correction portion.

Regarding claim 15 the specification failed to disclose a print image data generation portion for generating image data for printing using the output value of the density correction portion.

Regarding claim 16 the specification failed to disclose wherein the density correction portion performs correction increasing a density of image data

Art Unit: 2626

wavelength components except the wavelength component having the best MTF characteristics.

Regarding claim 17 the specification failed to disclose wherein the line sensor included in the reading means has a plurality of element arrays having different wavelength components disposed separately in the secondary scanning direction,

The density correction portion performs correction increasing a density of image data of the wavelength component to be processed by the interpolation process when the interline correction portion performs the correction.

Regarding claim 18 the specification failed to disclose wherein the density correction portion performs correction switching a first density correction quantity in the case where the fine line decision portion decides that the present pixel is on a fine line for each of image data of all wavelength components, and a second density correction quantity in the case where the fine line decision portion decides that the present pixel is on a fine line only for a part of the wavelength components, and the second density correction quantity is set to a value less than the first density correction quantity.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshida et al. (US. 6538769), Sato et al. (US. 6661545), Toyoda (US. 6198550), Takaragi et al. (US. 6621922), and Kurita (US. 5864634) are cited to show related art with respect to 3-line sensors in an image processing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TAC  
March 19, 2004

Tia A Carter  
Examiner  
Art Unit 2626

MARK WALLERSON  
PRIMARY EXAMINER

